



**HYDRO-LEK**  
REMOTE HANDLING SPECIALISTS  
A SAAB SEAEYE COMPANY

# Hydro-Lek Subsea Tooling





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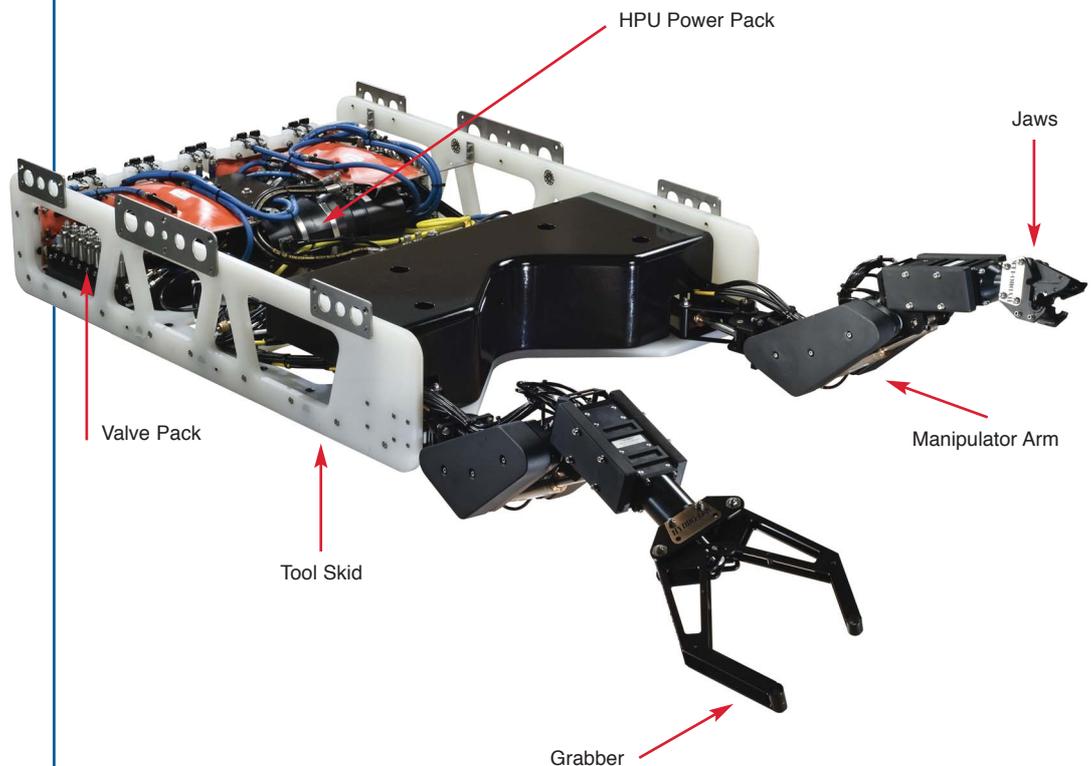
## Simple, Compact & Robust

**Hydro-Lek is a leading supplier of remote intervention systems for the subsea, nuclear and defence industries.**

Our standard products range from simple hydraulic fittings to fully integrated telemetry-controlled manipulator systems for integration onto ROVs and remote access platforms.

With an established reputation spanning 30 years for providing field-proven and robust remote tooling, we are able to draw on this experience and expertise to also offer a bespoke design and build service - where innovation, reliability and cost, are key.

[www.hydro-lek.com](http://www.hydro-lek.com)



# Hydro-Lek Manipulators

**Hydro-Lek design and manufacture a wide range of compact and reliable hydraulic manipulators for small and medium class ROVs and other remote platforms.**

Ranging from a compact 5-function arm weighing less than 5 kg in water to a rugged work class 7-function manipulator system, Hydro-Lek has become the supplier of choice for many remote intervention tasks worldwide.

Constructed out of mainly aluminium, high density polyethylene and stainless steel, our manipulators bear the hallmark of being lightweight, robust and easy to use.



## Manipulator Accessories

Hydro-Lek offers a range of manipulator accessories, including jaw assemblies, which can be custom designed for individual applications.



## Manipulator Comparison Chart

MODEL	Functions	DIMENSIONS				CAPACITIES				WEIGHT	
		Length of arm (mm)	Length of slew plate (mm)	Stowed height (mm)	Width (mm)	Jaw rotate	Jaw torque at 140 bar (Nm)	Arm lift at full reach (kg)	Max working pressure (bar)	In air (kg)	In water (kg)
HLK-MB4	4	630	210	125	100	360° cont.	36	40	210	13.5	11
HLK-RHD4	4	785	320	717	190	360° cont.	36	90	210	26.5	18.5
HLK-43000	5	553	210	97	232	180°	8 @ 80 bar	10	100	6	4
HLK-HD5	5	943	320	515	200	360° cont.	36	40	210	30	20
HLK-RHD5	5	943	320	515	200	360° cont.	36	80	210	30	20
HLK-EH5	5	795	210	96	460	180°	14	25	210	12	9.5
HLK-40400	5	1425	410	760	240	360° cont.	75	150	210	45	30
HLK CRA6	6	1500	280	600	150	360° cont.	36	32	210	28	14.5
HLK-HD6W	6	1120	280	515	380	360° cont.	36	30	210	29	21
HLK-40500R	7	1500	410	800	180	360° cont.	75	150	210	59	40

All manipulators are constructed from HE30 hard anodised aluminium/high density polyethylene/316 stainless steel with the exception of: HLK-43000 which is constructed from high density polyethylene/ertalyte/316 stainless steel and HLK-EH5 which is constructed from HE30 hard anodised aluminium/316 stainless steel.

# Hydraulic System Components

**Hydro-Lek offers a range of hydraulic system components as building blocks to perform both simple and highly complex tasks.**

Designed to be compact, lightweight and reliable, our range of hydraulic systems are used extensively worldwide in underwater and other hazardous environments.



## Rotary Actuators

Hydro-Lek design a range of rotary actuators, including rack and pinion as well as worm and wheel, to enable rotary access for inspection and positioning tasks.

All actuators offer a range of movement up to 360°.



## Hydraulic Cylinders

Hydro-Lek provide a range of hydraulic cylinders with bore sizes from 20 mm to 45 mm.

Constructed from aluminium and stainless steel, cylinders are available in standard stroke lengths or can be customised to suit application requirements.



## HPU Power Packs

Hydro-Lek's range of compact and versatile HPU power packs, run from DC, single phase or 3-phase AC.

Output flow rates are from 0.3 litres/minute to 15 litres/minute with working pressures up to 210 bar.

## Valve Packs

Hydro-Lek provide a wide range of single function to 7-function subsea valve packs for all types of underwater control tasks with full telemetry and further function options.



## Telemetry Control Systems

Hydro-Lek's telemetry control systems provide the human interface and comprise a transmitter/joystick control box and a subsea receiver pod. Options include 32 or 40 channels, utilising RS232 or twisted pair communications.

The transmitter can be configured to incorporate up to six 4-function joysticks, two motor pump ON/OFF controls and control of a tooling valve.



## Fittings

Hydro-Lek manufactures a wide range of fittings for self-assembly. These include thread sizes of 1/4 BSP, 1/8 NPT, No. 4JIC, Swagelok compatible and Hydro-Lek compact 8 mm banjo fittings to suit our small bore hose assemblies.

Other sizes are available on request.



# ROV Tooling

## Cutters

Hydro-Lek manufacture a range of both anvil and rotary disk cutters designed for cutting underwater rope and cabling of up to 150 mm diameter.

## Cleaning Tools

Hydro-Lek manufactures a selection of cleaning tools which can be deployed by our manipulators for underwater cleaning operations.

These include a hydraulic water jet system, Venturi suction pump and hydraulic cleaning brush.

## Camera Booms

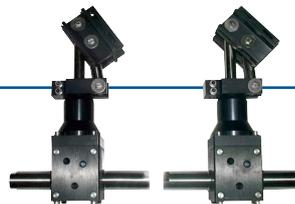
Hydro-Lek's range of camera boom arms are lightweight, compact and designed for inspection of pipelines up to 1m diameter.

## Pan & Tilts

Hydro-Lek's range of hydraulic pan & tilts are designed for mounting cameras and lights for underwater inspection.



Pan & Tilt Unit



Mini Pan & Tilt Units



Venturi Pump



Rotary Disc Cutter



Anvil Cutter



Water Jet Cleaning Tool



Camera Booms



# Special Projects

At Hydro-Lek we pride ourselves on being able to provide our customers with a complete engineering design solution from the supply of simple components to custom built fully integrated complex systems.

We understand the challenges presented by working in remote and inhospitable environments and employ a team of skilled engineers and workshop technicians to deliver the best solution within your timescales and within your budget.

1. Underwater Paint Spraying
2. Submarine Rescue Drilling
3. Nuclear Waste Handling



## HyBIS

HyBIS is an underwater observation and sampling platform designed and manufactured by Hydro-Lek to enable seabed sampling and video observation at extreme depths of up to 6000 metres.

A mnemonic for Hydraulic Benthic Interactive Sampler, HyBIS is designed to operate in conjunction with existing deck handling equipment and cable systems on extended towed sonar arrays.

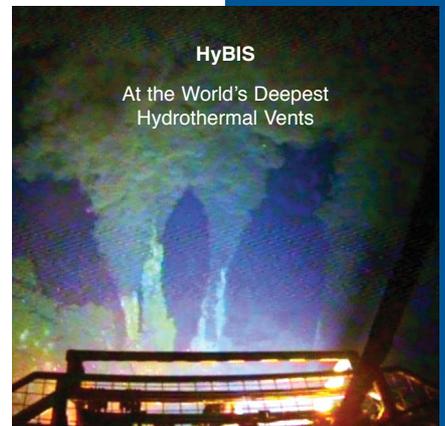
HyBIS measures 2.2m high by 1.4m wide by 1.5m long and comprises two subsea modules: an upper command module which houses hydraulic and electric power to drive thrusters, release mechanism, video and lighting, fibre-optic telemetry for instruments and sensors; and a lower module which can house a range of tooling systems including:

- sampling grab
- manipulator and tool sledge
- winch for instrument recovery
- ocean bottom seismometer (OBS) and ocean bottom electromagnetic receivers (OBEM) deployment.

Alternatively, we can design a hydraulic tooling option to suit customer requirements.

All tooling modules are able to be separated on command, allowing the tool module or payload to be accurately deployed or, in the event of an emergency, jettisoned.

HyBIS was first deployed in 2010 to discover, film and take samples of the world's deepest hydrothermal vents in the Cayman Trench - at 6000 metres deep. It was here that researchers discovered a new species of shrimp which they named Rimicaris Hybisae after the vehicle used to collect them.



## Service & Logistics

**Delivering reliable, high performing products with a high level of customer service, is key to our business.**

All our systems include documentation, certificates and manuals and we offer comprehensive spares kits for routine maintenance and for reducing the level of downtime should a repair be required at sea.

Hydro-Lek understands the need for fast and efficient delivery. For this reason we carry significant stock levels of full systems as well as spare parts which can be delivered from our headquarters in Berkshire to anywhere in the world.



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